Fig. 1

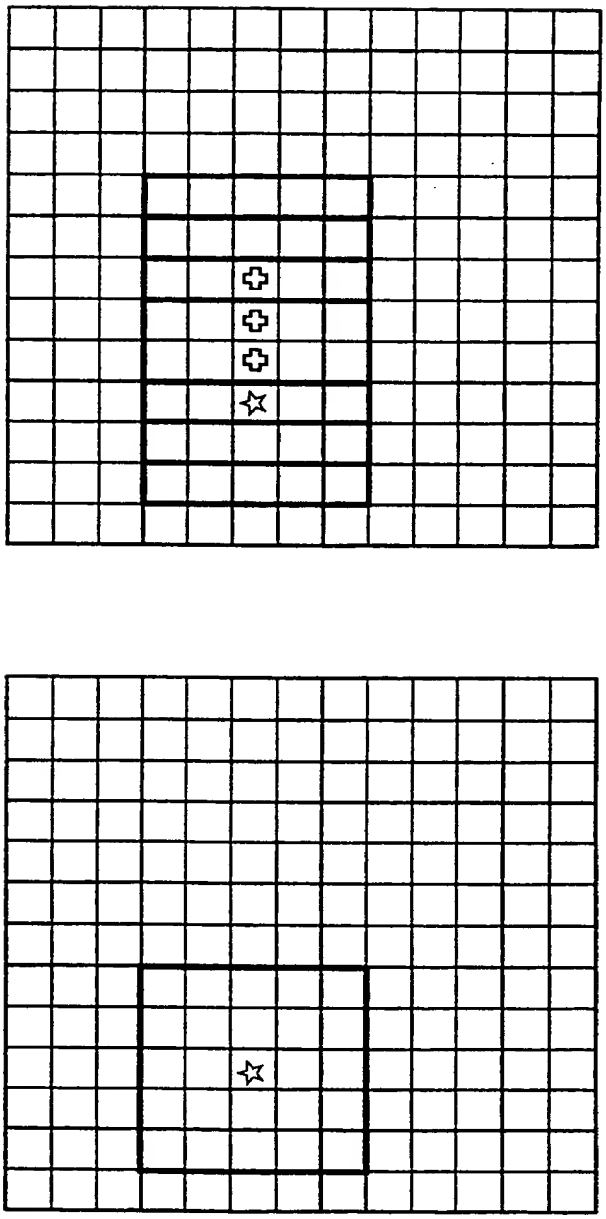
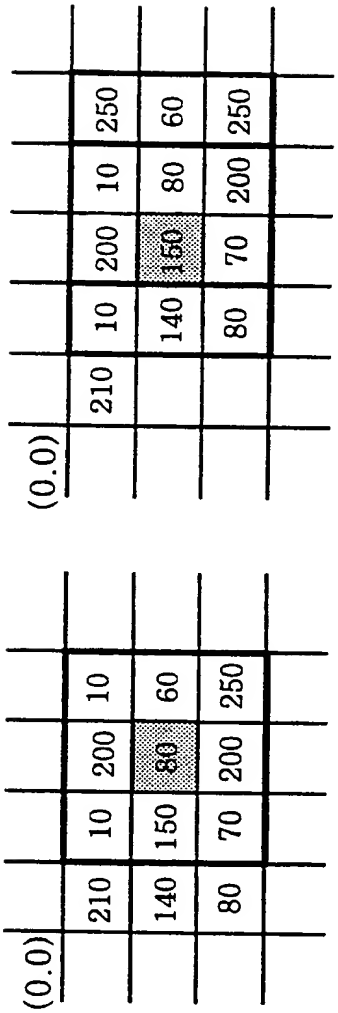


Fig. 2


SEARCH IMAGE
REFERENCE IMAGE
(0.0)
210
10
200
10
250
140
150
80
60
80
70
200
250
DISPARITY 0
DISPARITY 1

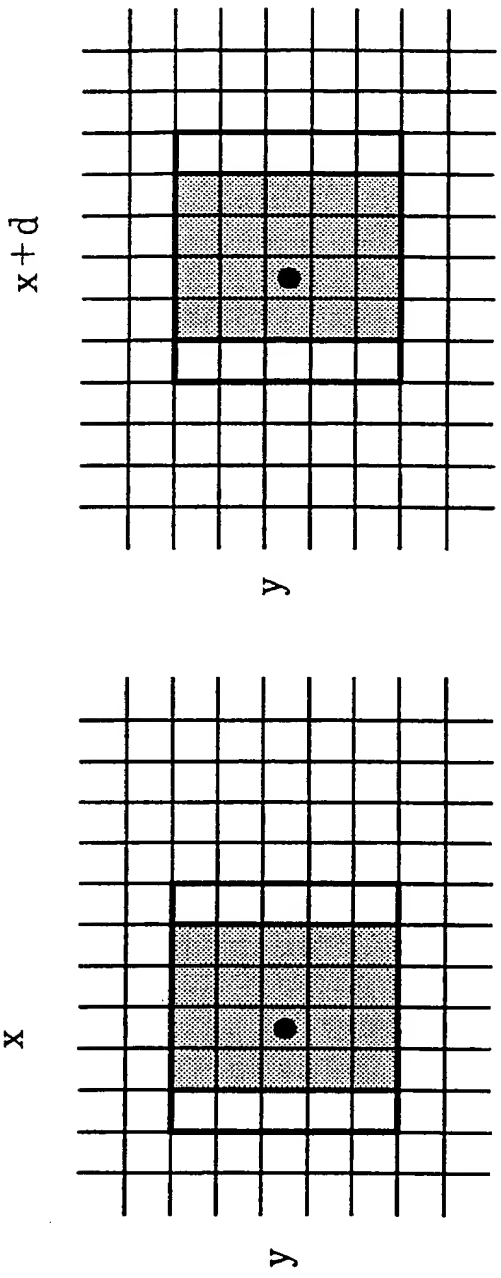


Fig. 3a

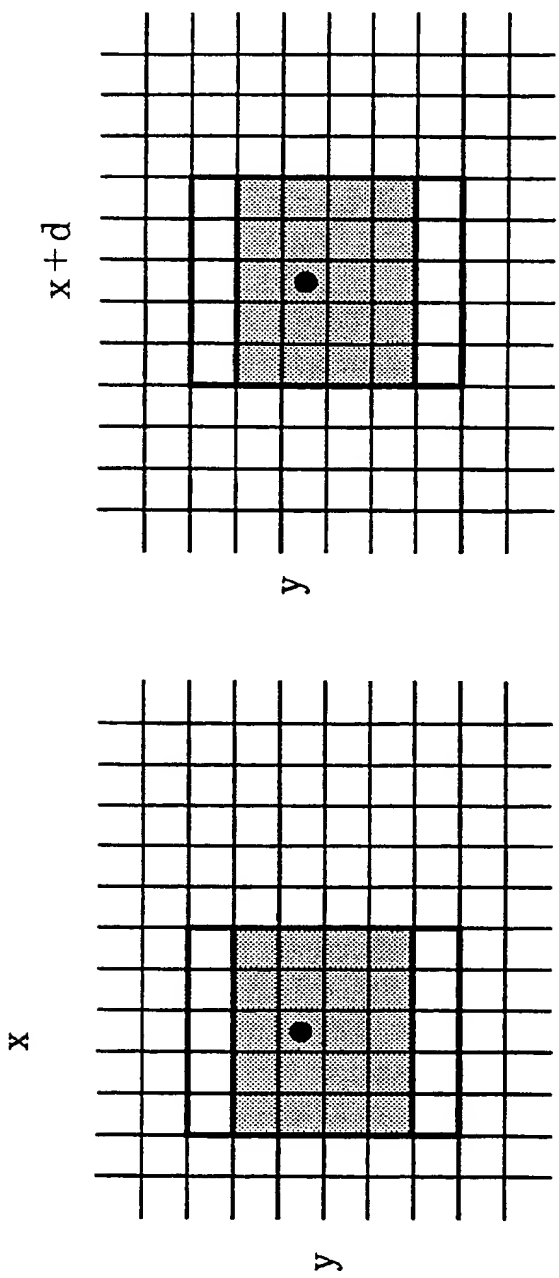
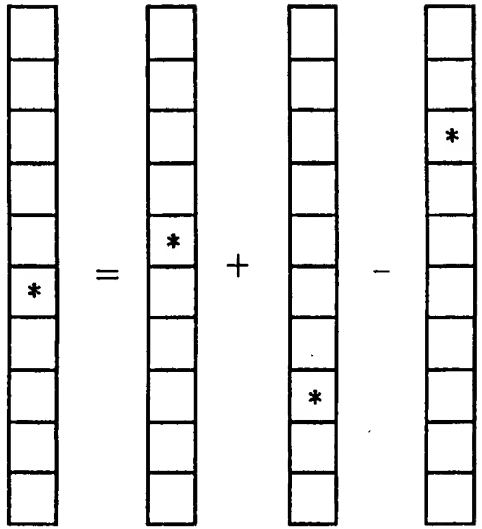


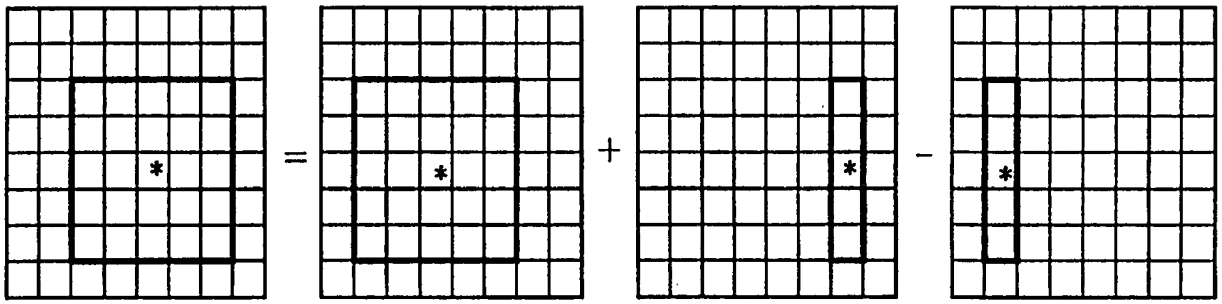
Fig. 3b

Fig. 4a



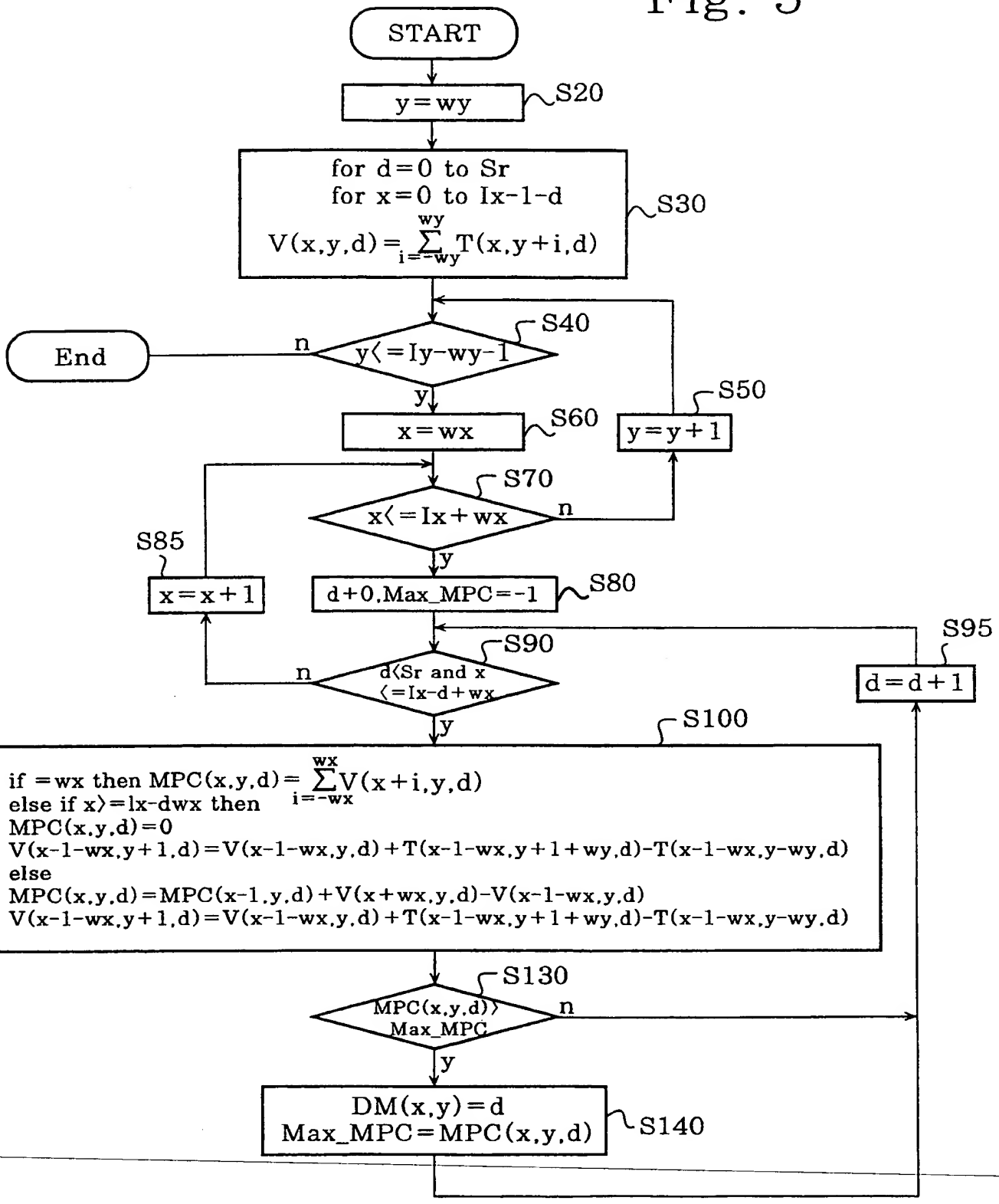
$$V(x,y,d)=V(x,y-1,d)+T(x,y+wy,d)-T(x,y-1-wy,d)$$

Fig. 4b



$$MPC(x,y,d)=MPC(x-1,y,d)+V(x+wx,y,d)-V(x-wx-1,y,d)$$

Fig. 5


START
y=wy
S20
for d=0 to Sr
for x=0 to Ix-1-d
V(x,y,d)=Σ(i=-wy to wy) T(x,y+i,d)
S30
End
n
y<=Iy-wy-1
S40
y
x=wx
S60
y=y+1
S50
S70
x<=Ix+wx
n
y
S85
x=x+1
d+0,Max_MPC=-1
S80
S95
S90
n
d<Sr and x
<=Ix-d+wx
d=d+1
y
S100
if =wx then MPC(x,y,d)=Σ(i=-wx to wx) V(x+i,y,d)
else if x>=Ix-dwx then
MPC(x,y,d)=0
V(x-1-wx,y+1,d)=V(x-1-wx,y,d)+T(x-1-wx,y+1+wy,d)-T(x-1-wx,y-wy,d)
else
MPC(x,y,d)=MPC(x-1,y,d)+V(x+wx,y,d)-V(x-1-wx,y,d)
V(x-1-wx,y+1,d)=V(x-1-wx,y,d)+T(x-1-wx,y+1+wy,d)-T(x-1-wx,y-wy,d)
S130
MPC(x,y,d)>
Max_MPC
n
y
DM(x,y)=d
Max_MPC=MPC(x,y,d)
S140

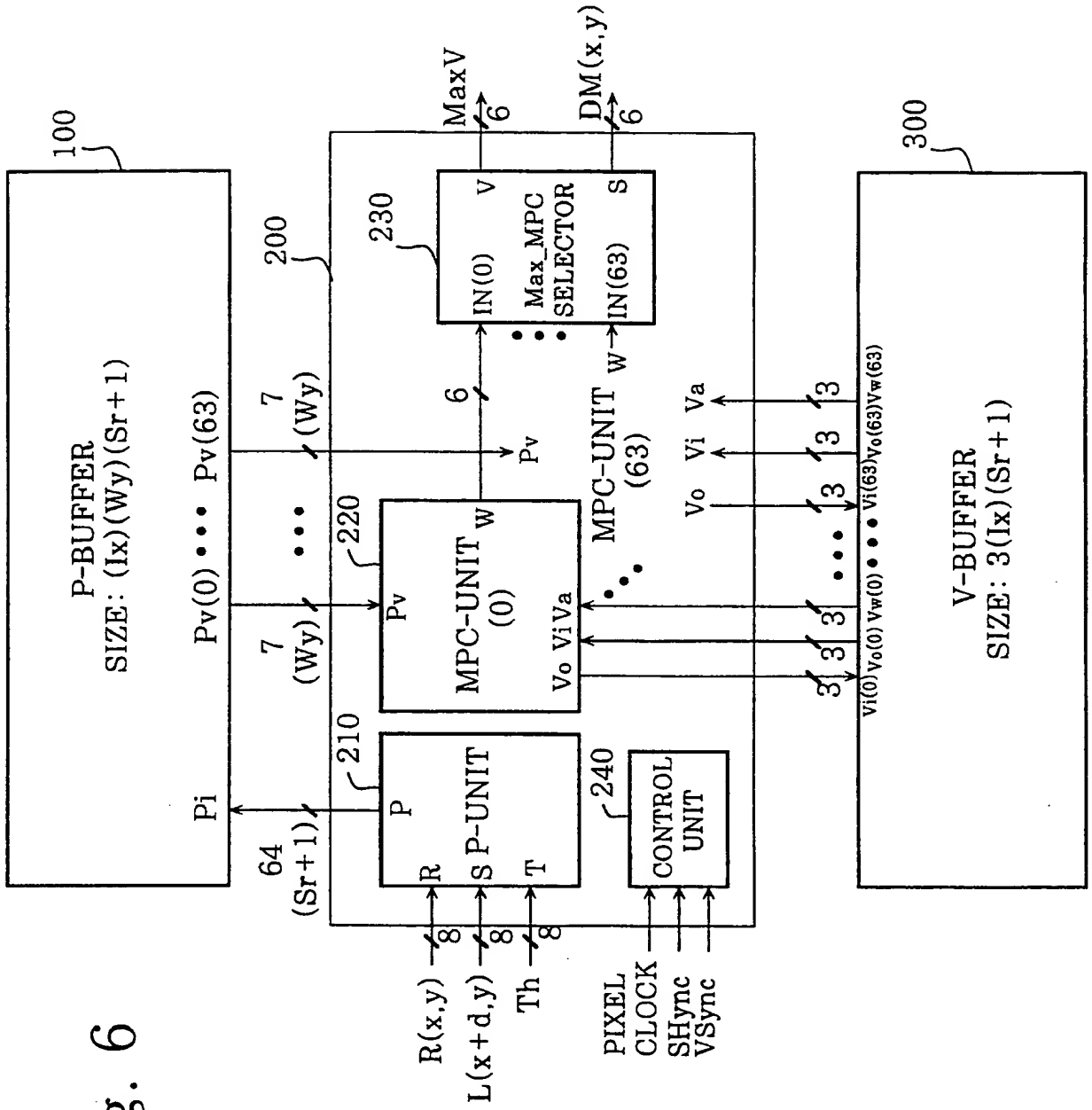
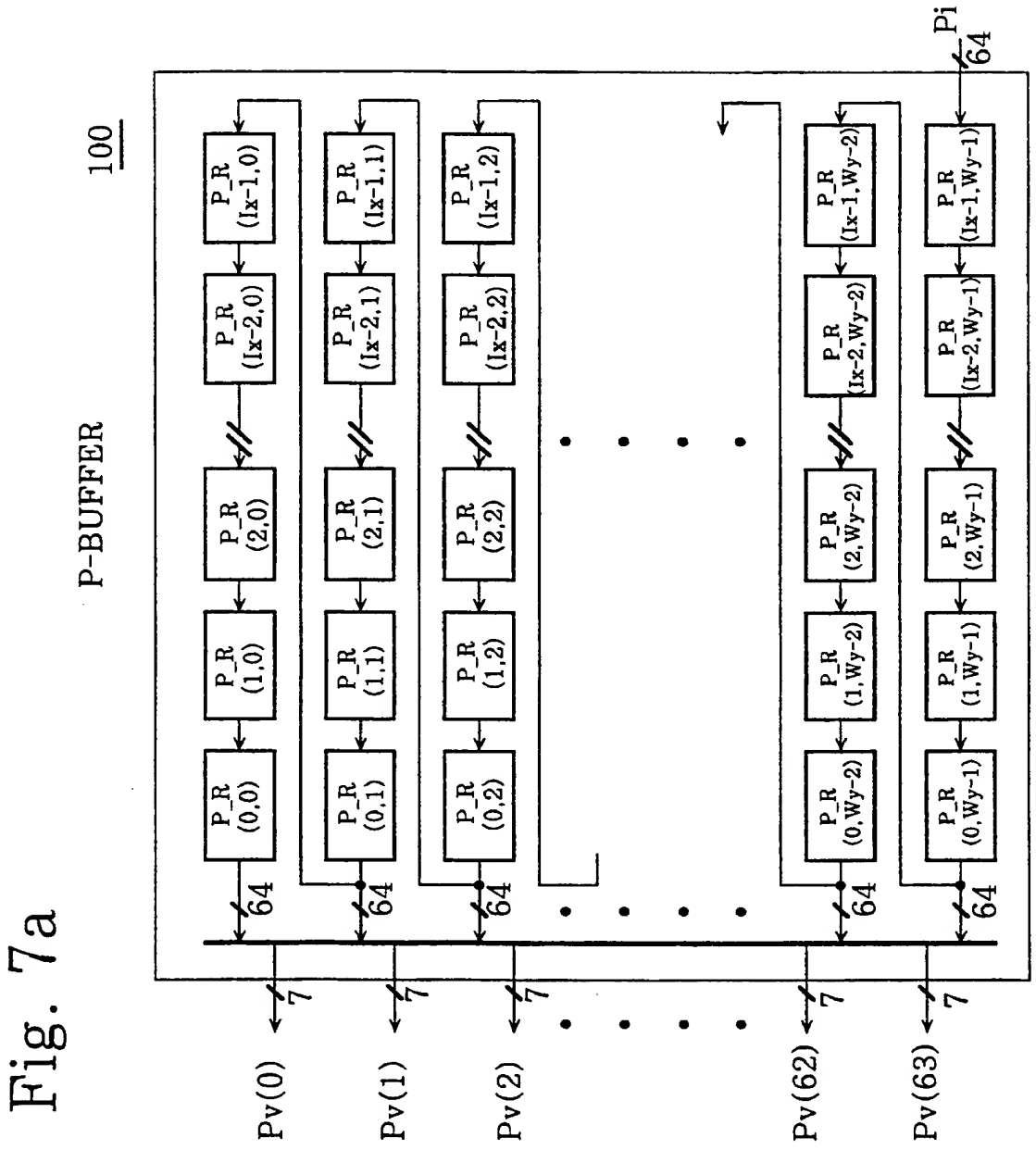

100
P-BUFFER
SIZE: (Ix)(Wy)(Sr+1)
Pi
Pv(0) • • • Pv(63)
64
(Sr+1)
200
7
(Wy)
210
P
R
S P-UNIT
T
220
MPC-UNIT
(0)
MPC-UNIT
(63)
230
IN(0)
Max_MPC
SELECTOR
IN(63)
V
S
W
MaxV
DM(x,y)
6
Pv
Vo Vi Va
3
240
CONTROL
UNIT
300
V-BUFFER
SIZE: 3(Ix)(Sr+1)
Vi(0) Vo(0) Vw(0) • • • Vi(63) Vo(63) Vw(63)
R(x,y)
L(x+d,y)
Th
8
PIXEL
CLOCK
SHync
VSync

Fig. 6

09/623516

Fig. 7a



09/623516

Fig. 7b

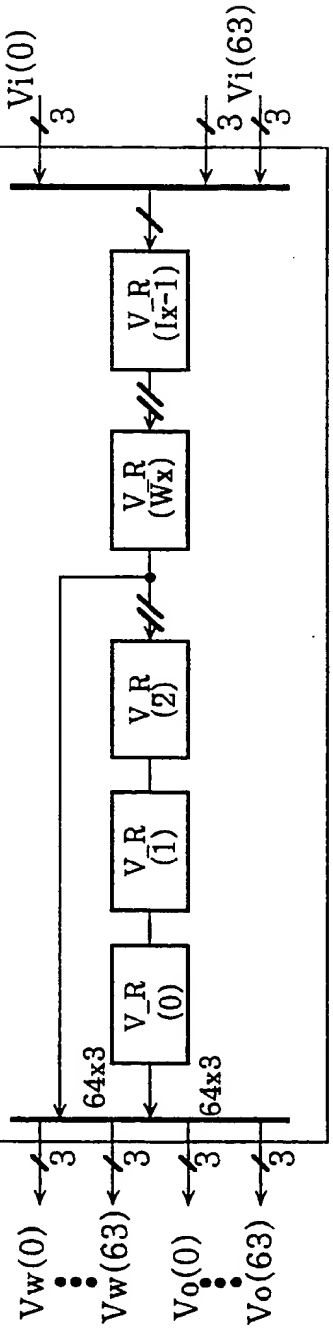


Fig. 8a

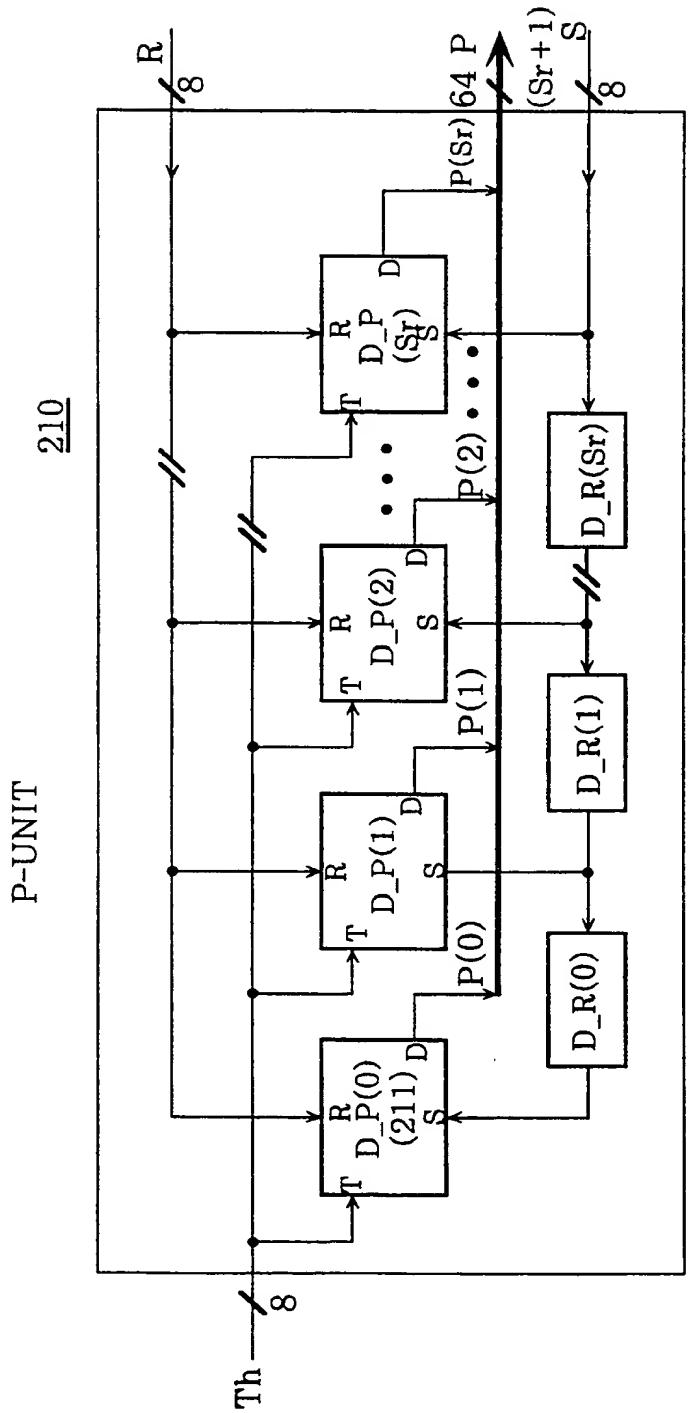

P-UNIT
210
R
8
S
(Sr+1)
8
64 P
P(Sr)
P(2)
P(1)
P(0)
D_P (Sr)
D_P(2)
D_P(1)
D_P(0) (211)
D_R(Sr)
D_R(1)
D_R(0)
R
S
T
D
Th
8

Fig. 8b

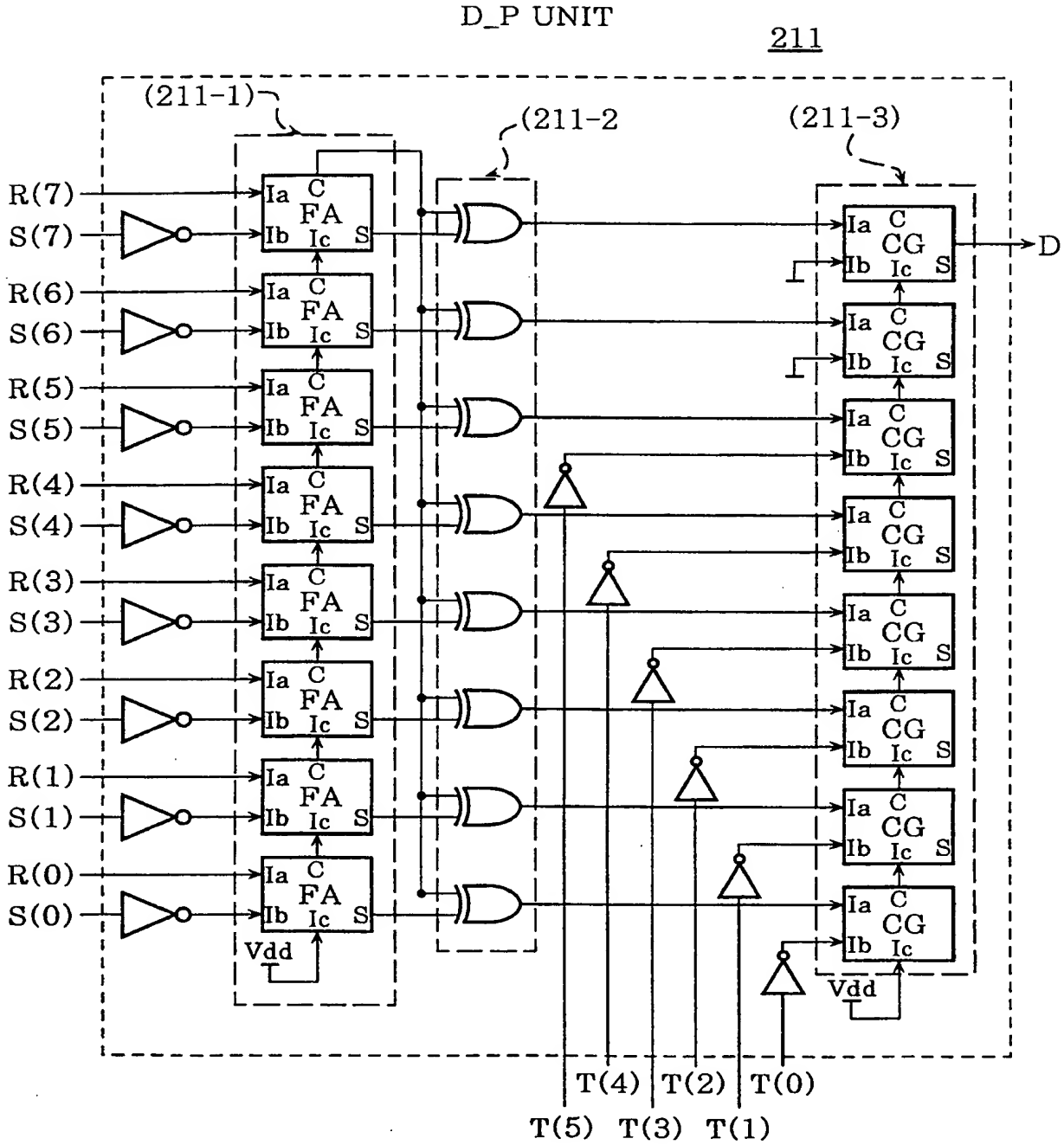

D_P UNIT
211
(211-1)
(211-2
(211-3)
R(7)
S(7)
R(6)
S(6)
R(5)
S(5)
R(4)
S(4)
R(3)
S(3)
R(2)
S(2)
R(1)
S(1)
R(0)
S(0)
Ia C
Ib Ic S
FA
CG
Vdd
D
T(4) T(2) T(0)
T(5) T(3) T(1)

Fig. 9

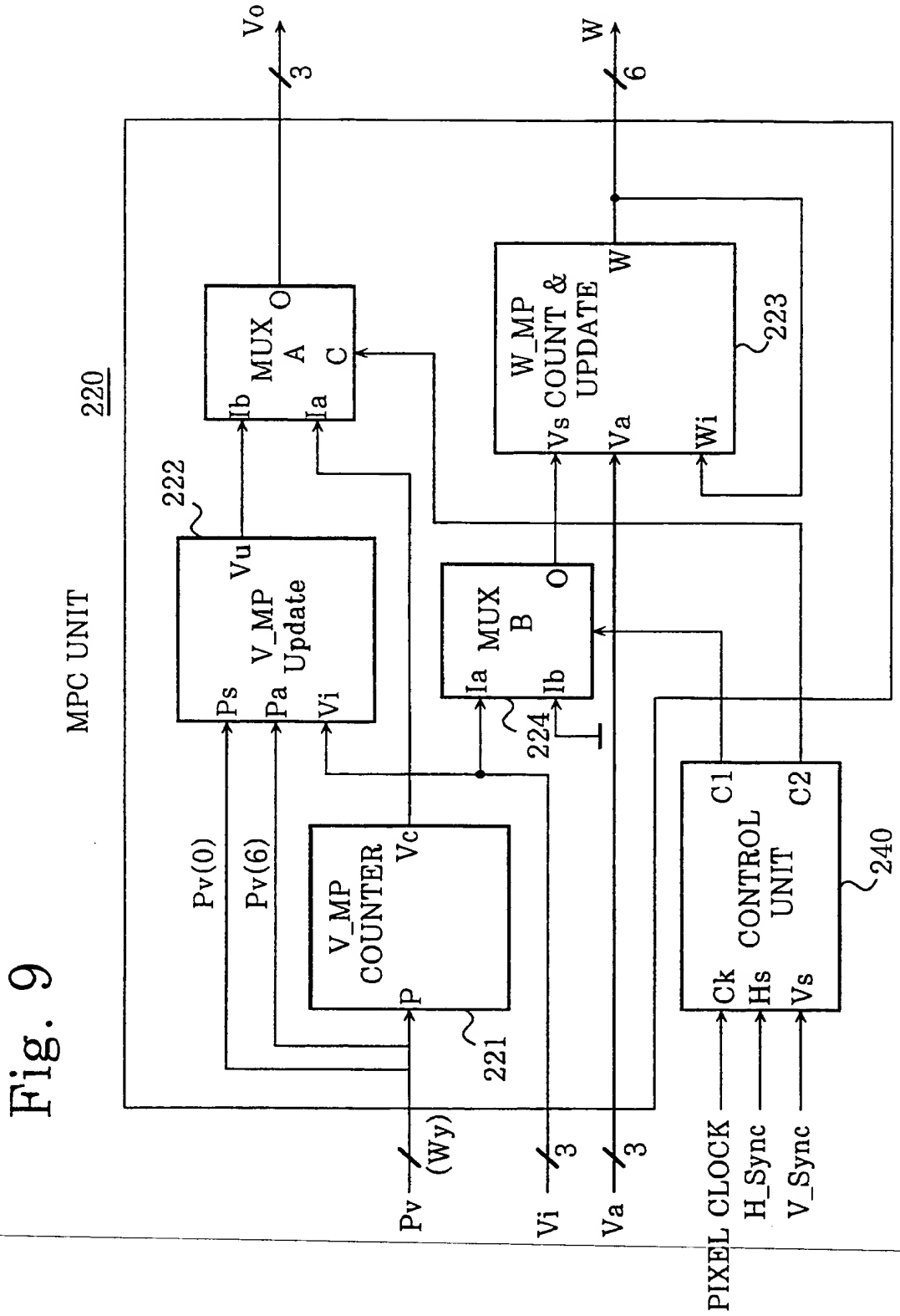
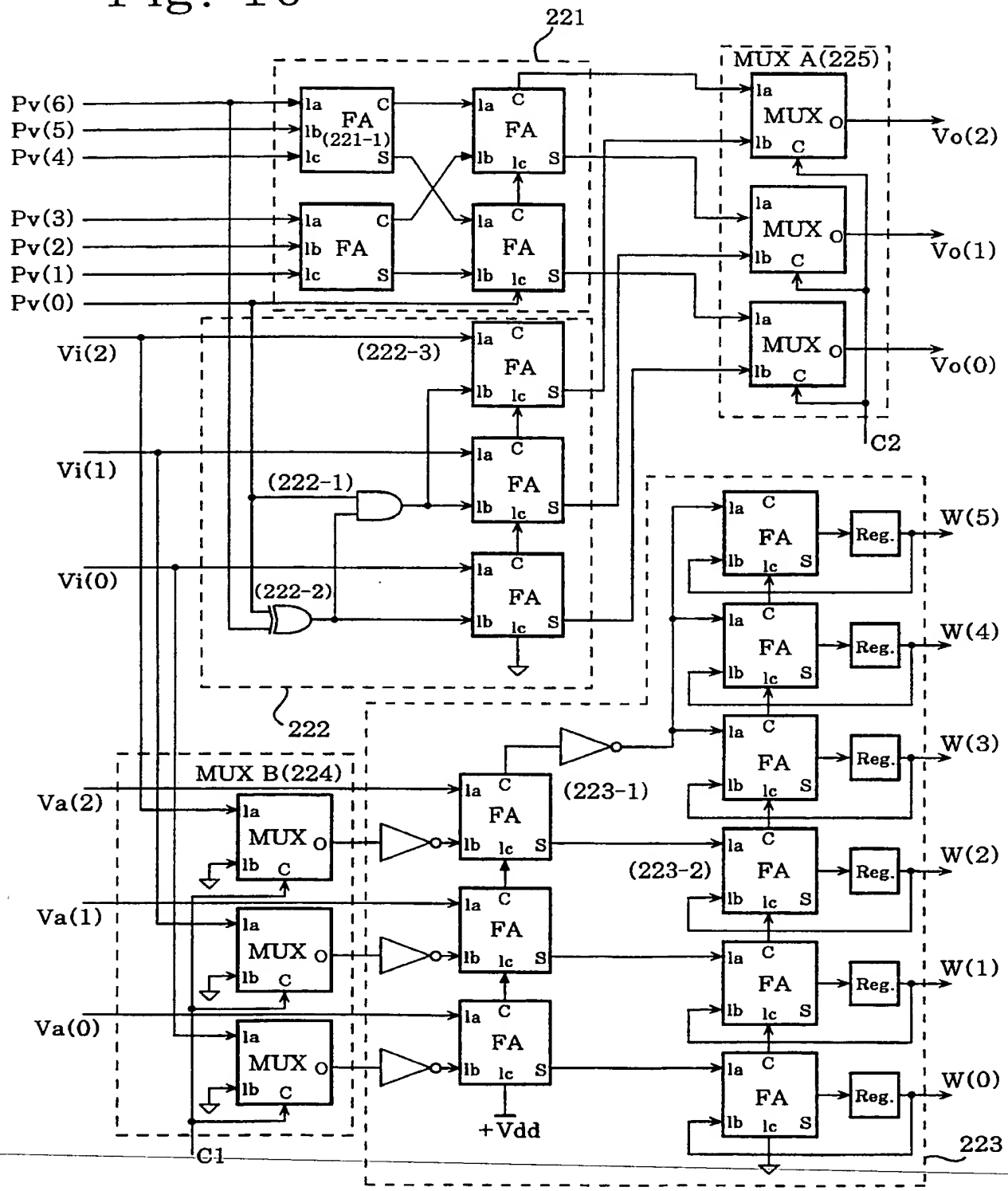

MPC UNIT
220
V_MP COUNTER
Vc
P
221
V_MP Update
Vu
Ps
Pa
Vi
222
MUX A
O
Ib
Ia
C
MUX B
O
Ia
Ib
224
W_MP COUNT & UPDATE
W
Vs
Va
Wi
223
CONTROL UNIT
C1
C2
Ck
Hs
Vs
240
Pv(0)
Pv(6)
Vo
3
W
6
Pv
(Wy)
Vi
3
Va
3
PIXEL CLOCK
H_Sync
V_Sync

Fig. 10


221
MUX A(225)
Pv(6)
Pv(5)
Pv(4)
Pv(3)
Pv(2)
Pv(1)
Pv(0)
FA (221-1)
FA
MUX
Vo(2)
Vo(1)
Vo(0)
C2
Vi(2)
Vi(1)
Vi(0)
(222-3)
(222-1)
(222-2)
222
W(5)
W(4)
W(3)
W(2)
W(1)
W(0)
Reg.
MUX B(224)
Va(2)
Va(1)
Va(0)
(223-1)
(223-2)
+Vdd
C1
223

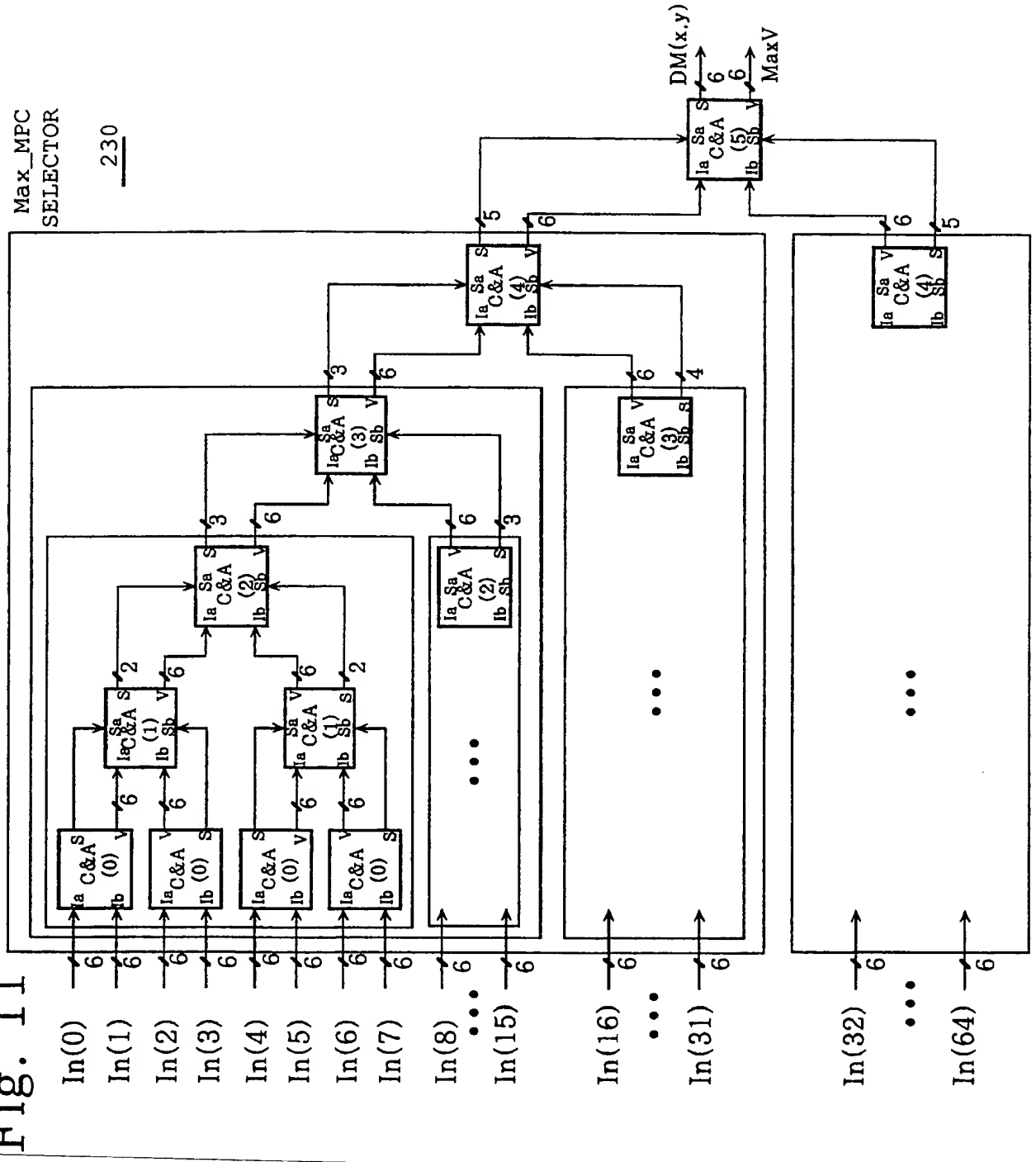
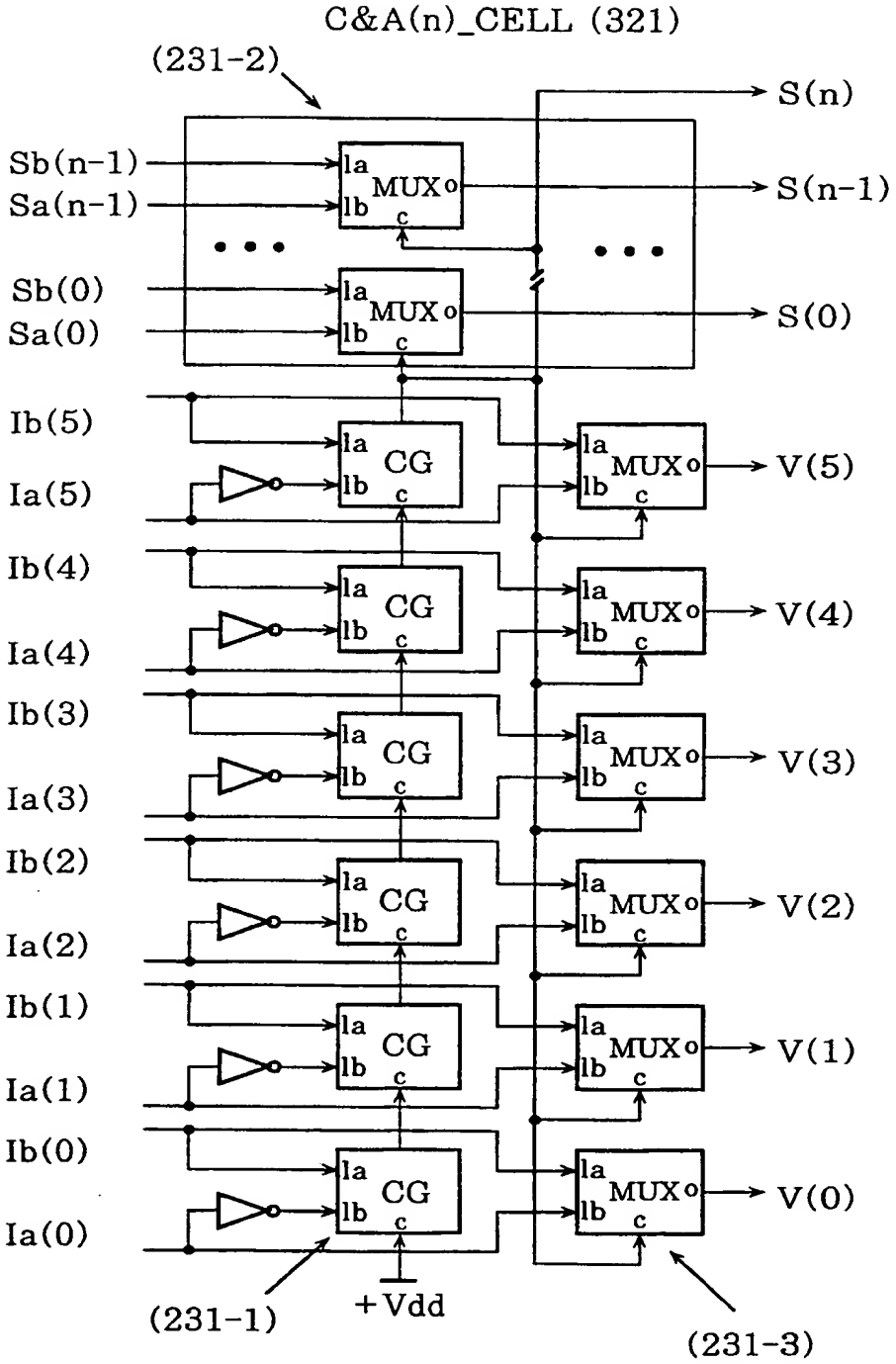

Max_MPC
SELECTOR
230
DM(x,y)
MaxV
In(0)
In(1)
In(2)
In(3)
In(4)
In(5)
In(6)
In(7)
In(8)
In(15)
In(16)
In(31)
In(32)
In(64)

Fig. 11

Fig. 12


C&A(n)_CELL (321)
(231-2)
S(n)
S(n-1)
S(0)
Sb(n-1)
Sa(n-1)
Sb(0)
Sa(0)
Ib(5)
Ia(5)
Ib(4)
Ia(4)
Ib(3)
Ia(3)
Ib(2)
Ia(2)
Ib(1)
Ia(1)
Ib(0)
Ia(0)
la
lb
MUX
o
c
CG
V(5)
V(4)
V(3)
V(2)
V(1)
V(0)
(231-1)
+Vdd
(231-3)